

Title (en)

Workpiece feeding apparatus for transfer press machine

Title (de)

Vorrichtung zum Zuführen von Werkstücken für eine Presse

Title (fr)

Dispositif d'alimentation de pièces pour une presse

Publication

**EP 1402971 A1 20040331 (EN)**

Application

**EP 03255758 A 20030915**

Priority

JP 2002271494 A 20020918

Abstract (en)

The machine has a set of carriers (25a-g) that are supported by guide beams (23) to allow movement in a direction of a press line (L). Cross bars (11) provided with work piece holder is attached to the carriers. A carrier mechanism (28) feeds carriers located on an upstream side in the direction of the press line. A carrier mechanism (30) feeds carriers located downstream in the press line direction.

IPC 1-7

**B21D 43/05**

IPC 8 full level

**B21D 43/05** (2006.01); **B30B 13/00** (2006.01)

CPC (source: EP US)

**B21D 43/055** (2013.01 - EP US)

Citation (search report)

- [XY] US 4981031 A 19910101 - SCHNEIDER FRANZ [DE], et al
- [XY] EP 0315381 A2 19890510 - ISHIKAWAJIMA HARIMA HEAVY IND [JP]
- [XY] PATENT ABSTRACTS OF JAPAN vol. 017, no. 592 (M - 1502) 28 October 1993 (1993-10-28)
- [AD] PATENT ABSTRACTS OF JAPAN vol. 1999, no. 03 31 March 1999 (1999-03-31)

Cited by

CN105235266A; EP1985391A1; US7841274B2

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

**EP 1402971 A1 20040331**; **EP 1402971 B1 20060705**; CA 2440962 A1 20040318; CA 2440962 C 20071023; DE 60306598 D1 20060817; DE 60306598 T2 20070621; ES 2268288 T3 20070316; JP 2004106012 A 20040408; JP 4269612 B2 20090527; MX PA03008257 A 20040903; US 2004177669 A1 20040916; US 7047790 B2 20060523

DOCDB simple family (application)

**EP 03255758 A 20030915**; CA 2440962 A 20030915; DE 60306598 T 20030915; ES 03255758 T 20030915; JP 2002271494 A 20020918; MX PA03008257 A 20030912; US 66322403 A 20030916